WHAT IS CLAIMED IS :

1. Method for the encoding of a sequence of source images, implementing a motion/texture decomposition, producing, for at least certain of the source images, information representing motion, called motion images, and information representing texture, called texture images, and wavelet encoding, characterized in that the method comprises the following steps:

- estimating the motion so as to obtain said motion images;
- projecting each of said source images on at least one reference grid so as to obtain said texture images, on which the effect of the motion has been cancelled;
- comparing a motion image and a corresponding estimated image so as to obtain a motion difference image, called a motion residue;
- comparing a texture image and a corresponding estimated image so as to obtain a texture difference image;
- independent wavelet encoding of said motion residues and said texture residues.

2. Encoding method according to claim 1, characterized in that said comparison implements a difference with an interpolated image using at least the first and/or the last image of said sequence.

3. Encoding method according to either of the claims 1 and 2, characterized in that a temporal encoding of said texture is performed, being rectified by said motion preliminarily encoded along the temporal axis, by means of a wavelet encoding.

4. Encoding method according to any of the claims 1 to 3, comprising comprises an encoding of the texture comprising a temporal wavelet encoding followed by spatial wavelet encoding.

5. Encoding method according to any of the claims 1 to 4, comprising a motion encoding that takes account of a meshing.

6. Method according to claim 5, characterized in that said meshing is a hierarchical meshing.

7. Encoding method according to any of the claims 1 to 6, comprising a

motion encoding comprising a temporal wavelet encoding followed by a spatial wavelet encoding.

8. Encoding method according to any of the claims 1 to 7, characterized in that said source images are grouped together in image blocks comprising a variable number (N) of source images.

9. Encoding method according to claim 8, characterized in that two successive image blocks comprise at least one common image.

10. Encoding method according to claim 9, characterized in that the first image of an image block is not encoded, this block being identical to the last image of the preceding image block.

11. Encoding method according to any of the claims 1 to 10, characterized in that, in each of said image blocks, the motion of all the images of an image block is estimated from the first image of said block.

12. Encoding method according to claim 11, characterized in that said projection step uses two reference grids respectively representing the first and last images of the block considered.

13. Encoding method according to claim 12 characterized in that, for a block of N images, the images from 1 to (N+1)/2 are piled on the reference grid representing the first image and the images from (N+1)/2 +1 to N are piled on the reference grid representing the last image.

14. Encoding method according to any of the claims 1 to 13, comprising a motion encoding that implements a multiple-resolution motion estimation, according to which the motion is estimated on at least two levels of image resolution.

15. Encoding method according to claims 6 and 14, characterized in that the motion estimation is done on at least two levels of said hierarchical meshing.

16. Encoding method according to any of the claims 1 to 15, comprising a step for projecting an image on at least one reference grid, corresponding to a sampling grid defined by the position of the nose of a meshing in an image, so as to obtain a texture mask.

17. Encoding method according to claim 16, characterized in that a multiple-

grid approach is implemented, according to which a specific reference grid is respectively associated with at least two hierarchical levels of a hierarchical meshing.

18. Encoding method according to claim 17, characterized in that a weighting is made of the meshing nodes between said hierarchical levels, representing geometrical deformation.

19. Encoding method according to any of the claims 16 to 18, characterized in that it comprises a detection step of at least one image support zone that has remained undefined after said projection of an image, owing to the use of a reference grid corresponding to another image, and a padding step said undefined image support zone or zones.

20. Encoding method according to claim 19, characterized in that said padding step relies on an analysis-synthesis type of approach, the image to be completed being analyzed and then synthesized to obtain a residue by comparison.

21. Encoding method according to claim 20, characterized in that said analysis-synthesis is reiterated at least once on the residue obtained at the preceding iteration.

22. Encoding method according to any of the claims 18 to 21, characterized in that it comprises a spatial padding step for at least one image followed by temporal padding step, by prediction.

23. Encoding method according to claim 22, characterized in that said padding step is carried out especially by an interpolation.

24. Encoding method according to any of the claims 1 to 23, characterized in that an antisymmetry is applied to the wavelet coefficients corresponding to an edge of the image so as to simulate a signal with support of infinite length.

25. Encoding method according to any of the claims 1 to 24, characterized in that the encoded data are distributed into at least two layers, a bottom layer comprising data for the reconstruction of an image of coarse quality and a top layer for refining the quality of said coarse image.

26. Encoding method according to claim 25, characterized in that said bottom layer comprises a low-level motion stream, comprising motion data of the last

image of said image block, and a low-level texture stream, comprising texture data of the first and last images of said image block.

27. Encoding method according to either of the claims 25 et 26, characterized in that said top layer comprises a high-level motion stream and a high-level texture stream, corresponding to the encoding of said residues.

28. Encoding method according to any of the claims 1 to 27, comprising the following steps:

- selecting a group of source images;
- analyzing the motion in said group of source images, producing said motion images;
- analyzing the texture of the source images of said group, said texture being piled on the corresponding motion images, producing said texture images;
- predicting at least certain of the texture images of said group of source images, producing said predicted texture images;
- determining texture residues, corresponding to the difference between a texture image and a predicted texture image;
- predicting at least certain of the motion images of said group of motion images, producing said predicted motion images;
- determining motion residues, corresponding to the difference between a motion image and a predicted motion image;
- applying a wavelet encoding to said texture residues and to said motion residues.

29. Signal representing a sequence of source images and obtained by an encoding method according to any of the claims 1 to 28, and implementing a motion/texture decomposition, producing, for at least some of said source images, information representing motion, called motion images, and information representing texture, called texture images, and a wavelet encoding,

characterized in that the signal comprises first digital data representing a wavelet encoding applied to motion difference images, called motion residues, obtained by comparison between a motion image and a corresponding estimated image,

and second digital data representing wavelet encoding applied to texture difference images, called texture residues, obtained by comparison between a texture image and a corresponding estimated image, on which the effect of the motion has been cancelled,

said first data being encoded independently of said second data.

30. Signal according to claim 29, characterized in that it is it is constituted by at least two layers, one bottom layer comprising data for reconstructing a coarse quality image and one top layer enabling the quality of said coarse image to be refined.

31. Signal according to claim 30, characterized in that said bottom layer comprises successively a base stream comprising resetting data, a first stream representing motion and a first stream representing texture, and in that said top layer comprises successively a second stream representing motion and a second stream representing texture, said second streams corresponding to the encoding of said residues.

32. Signal according to any of the claims 29 to 31, comprising three fields to describe an object, respectively representing its motion, its texture and its shape.

33. Method for the decoding of a sequence of source images, encoded by an encoding implementing a motion/texture decomposition, producing, for at least certain of said source images, information representing motion, called motion images, and information representing texture, called texture images, and wavelet encoding,

characterized in that said wavelet encoding being applied to difference images, called residues, obtained by comparison between a source image and a corresponding estimated image, it comprises the following steps:

- decoding the motion, in taking account of at least certain of said residues pertaining to the motion, to form motion images;
- decoding the texture, in taking account of at least certain of said residues pertaining to texture, to form texture images;
- synthesizing a sequence of decoded images, corresponding to said sequence of source images, by projection of said texture images on said

motion images.

34. Decoding method according to claim 33, characterized in that it comprises a step for measuring the quality of said sequence of decoded images, by analysis of the distortion between the original texture images and decoded texture images.

35. Decoding method according to any of the claims 33 and 34, characterized in that said motion decoding step comprises the following steps:

- generating a hierarchical meshing on the first image;
- decoding motion information associated with the last image, to determine a meshing associated with said last image;
- interpolation of the intermediate motion images.

36. Decoding method according to claim 35, characterized in that it then comprises a step for decoding said residues, comprising a wavelet transformation which is the inverse of that applied when encoding, and a step for adding said residues to said interpolated intermediate motion images.

37. Decoding method according to any of the claims 33 to 36, characterized in that said texture-decoding step advantageously comprises the following steps:

- generating a texture for the first image;
- decoding texture information associated with the last image, to determine a texture associated with said last image;
- interpolating intermediate texture images.

38. Decoding method according to claim 37 characterized in that, for at least some of said image blocks, called "inter" blocks, the step for generating a texture for the first image takes account of the last image of the preceding image block.

39. Decoding method according to one of the claims 37 and 38, characterized in that it then comprises a decoding step of the said residues, comprising a wavelet transformation which is the inverse of that applied when encoding, and a step for adding said residues to said interpolated intermediate texture images.

40. Decoding method according to any of the claims 33 to 39, characterized in that it comprises a management step of the reversals generated by said motion estimation.

41. Decoding method according to any of the claims 33 to 40, characterized in

that it comprises a stopping step of the processing of said residues, when a level of quality and/or a quantity of processing operations to be performed is attained.

42. Device for the encoding of a sequence of source images implementing a motion/texture decomposition, producing, for at least certain of said source images, information representing motion, called motion images, and information representing texture, called texture images, and wavelet encoding,
characterized in that it comprises means of wavelet encoding applied to difference images, called residues, obtained by comparison between a source image and a corresponding estimated image.

43. Device for the decoding of a sequence of source images, encoded by an encoding implementing a motion/texture decomposition, producing, for at least certain of said source images, information representing motion, called motion images, and information representing texture, called texture images, and wavelet encoding,
characterized in that said wavelet encoding being applied to difference images, called residues, obtained by comparison between a source image and a corresponding estimated image, it comprises:

- means for decoding motion in taking account of at least certain of said residues pertaining to the motion to form motion images;
- means for decoding texture, in taking account of at least certain of said residues pertaining to texture, to form texture images;
- means for synthesizing a sequence of decoded images, corresponding to said sequence of source images, by projection of said texture images on said motion images.

44. Data server characterized in that it comprises means to implement the encoding method according to any of the claims 1 to 28.

45. Digital data carrier capable of being read by a terminal, characterized in that it carries at least one signal according to any of the claims 29 to 32, obtained by means of an encoding method according to any of the claims 1 to 28.

46. Computer program, characterized in that it comprises instructions to implement an encoding of a sequence of source images, implementing a

motion/texture decomposition, producing, for at least certain of the source images, information representing motion, called motion images, and information representing texture, called texture images, and a wavelet encoding,

characterized in it comprises instructions to perform:

- an estimation of the motion so as to obtain said motion images;
- a projection of each of said source images on at least one reference grid so as to obtain said texture images, on which the effect of the motion has been cancelled;
- a comparison between a motion image and a corresponding estimated image so as to obtain a motion difference image, called a motion residue;
- a comparison between a texture image and a corresponding estimated image so as to obtain a texture difference image;
- independent wavelet encoding of said motion residues and said texture residues.

47. Computer program, characterized in that it comprises instructions to implement a decoding of a sequence of source images, implementing a motion/texture decomposition, producing, for at least certain of the source images, information representing motion, called motion images, and information representing texture, called texture images, and wavelet encoding,

characterized in that said wavelet encoding being applied to difference images, called residues, obtained by comparison between a source image and a corresponding estimated image, it comprises:

- means for decoding motion in taking account of at least certain of said residues pertaining to the motion to form motion images;
- means for decoding texture, in taking account of at least certain of said residues pertaining to texture, to form texture images;
- means for synthesizing a sequence of decoded images, corresponding to said sequence of source images, by projection of said texture images on said motion images.